

IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. § 1.121.

1. (currently amended) A controller for a machine, comprising:
a machine mountable base comprising a motor protection device housed in the base and a network terminal configured to connect the base to a central or remote system via a power and data distribution structure; and
a modular control unit replaceably mountable to the machine mountable base, wherein the modular control unit is coupled electrically downstream of the motor protection device and comprises control circuitry configured to be coupled electrically upstream of a motor of the machine and to control the motor in operation;
wherein the motor protection device is electrically connected between a power source and the modular control unit, and the modular control unit is electrically connected between the motor protection device and the motor to control application of power from the power source received through the motor protection device to the motor.
2. (original) The controller of claim 1, wherein the motor protection device comprises a short-circuit protective device.
3. (original) The controller of claim 2, wherein the short-circuit protective device comprises an instantaneous trip.
4. (original) The controller of claim 2, wherein the short-circuit protective device comprises a magnetic circuit breaker.

5. (original) The controller of claim 1, wherein the motor protection device comprises a disconnect device.
6. (original) The controller of claim 5, wherein the disconnect device comprises a local lockout.
7. (original) The controller of claim 1, wherein the modular control unit comprises an overload protection device and a contactor.
8. (original) The controller of claim 1, wherein the modular control unit comprises a programmable electronic overload.
9. (original) The controller of claim 1, wherein the modular control unit comprises an electromagnetic contactor.
10. (original) The controller of claim 1, wherein the modular control unit comprises a soft start machine controller.
11. (original) The controller of claim 1, wherein the modular control unit comprises a variable frequency machine drive.
12. (canceled)
13. (canceled)
14. (original) The controller of claim 1, wherein the machine mountable base comprises at least one sensor terminal.

15. (original) The controller of claim 1, wherein the machine mountable base comprises at least one actuator terminal.

16. (currently amended) A motor controller, comprising:
a motor mountable base comprising a short-circuit tripping disconnect; and
a replaceable control unit removably coupled to the motor mountable base,
wherein the replaceable control unit is coupled electrically downstream of the short circuit tripping disconnect and comprises control circuitry configured to be coupled electrically upstream of a motor and to control the motor in operation;
wherein the short-circuit tripping disconnect is electrically connected between a power source and the replaceable control unit, and the replaceable control unit is electrically connected between the short-circuit tripping disconnect and the motor to control application of power from the power source received through the short-circuit tripping disconnect to the motor.

17. (original) The motor controller of claim 16, wherein the short-circuit tripping disconnect comprises a magnetically tripping disconnect.

18. (original) The motor controller of claim 16, wherein the short-circuit tripping disconnect comprises a disconnect lockout.

19. (original) The motor controller of claim 16, wherein the motor mountable base comprises at least one communication terminal.

20. (original) The motor controller of claim 19, wherein the at least one communication terminal comprises a machine network terminal adapter to facilitate networking of a plurality of machine components.

21. (original) The motor controller of claim 16, wherein the replaceable control unit comprises an adjustable overload and a contactor.

22. (original) The motor controller of claim 16, wherein the replaceable control unit comprises a soft start motor controller.

23. (original) The motor controller of claim 16, wherein the replaceable control unit comprises a variable frequency motor drive.

24. (original) The motor controller of claim 16, wherein the replaceable control unit comprises at least one monitoring device.

25. (original) The motor controller of claim 16, wherein the replaceable control unit comprises at least one diagnostic device.

26. (original) The motor controller of claim 16, wherein the replaceable control unit comprises at least one manual control mechanism.

27.-30 (canceled)

31. (currently amended) A controller for a machine system, comprising:
an on-machine base comprising a machine protection device; and
a control unit coupled electrically downstream of the machine protection device
and comprising control circuitry configured to be coupled electrically upstream of a motor
of at least one machine in the machine system and control the motor in operation, wherein
the control unit is selectable from a plurality of different types of control units having
different types of control circuitry, the control unit is replaceably mountable to the on-

on-machine base, and the on-machine base and the control unit are cooperative to provide desired on-machine controllability;

wherein the machine protection device is electrically connected between a power source and the control unit, and the control unit is electrically connected between the machine protection device and the motor to control application of power from the power source received through the machine protection device to the motor.

32. (original) The controller of claim 31, wherein the machine protection device comprises a magnetically tripping disconnect.

33. (previously presented) The controller of claim 31, wherein the control unit is selected from a group consisting of a soft start machine controller, a variable frequency machine drive, and an overload protection device.

34. (currently amended) A controller for a system of distributed machines, comprising:

a machine mountable base, comprising:

a short-circuit protective device; and

a disconnect device; and

a modular control unit coupled electrically downstream of the short-circuit protective device and replaceably mountable to the machine mountable base, wherein the modular control unit comprises control circuitry configured to be coupled electrically upstream of a motor of at least one machine in the system of distributed machines and to control the motor in operation;

wherein the short-circuit protective device is electrically connected between a power source and the modular control unit, and the modular control unit is electrically connected between the short-circuit protective device and the motor to control application

of power from the power source received through the short-circuit protective device to the motor.

35.-50. (canceled)

51. (currently amended) A machine, comprising:

a motor;

a motor controller mounted to the motor, comprising:

a modular base comprising motor protection circuitry; and

a modular motor control unit coupled to the modular base electrically downstream of the motor protection circuitry and comprising motor control circuitry configured to be coupled electrically upstream of the motor, wherein the motor control circuitry is cooperatively operable with the motor protection circuitry, the modular motor control unit being selectively replaceable from a plurality of different types of motor control units, wherein the motor protection circuitry is electrically connected between a power source and the modular motor control unit, and the modular motor control unit is electrically connected between the motor protection circuitry and the motor to control application of power from the power source received through the motor protection circuitry to the motor; and

a connector coupling the modular motor control unit directly to the motor to enable control of the motor by the modular motor control unit.

52. (previously presented) The controller of claim 34, wherein the short-circuit protection device comprises an instantaneous trip.

53. (previously presented) The controller of claim 34, wherein the short-circuit protection device comprises a magnetic circuit breaker.

54. (canceled)

55. (canceled)

56. (previously presented) The controller of claim 34, wherein the short-circuit protection device and the disconnect device are replaceably mountable to the machine mountable base.

57. (previously presented) The controller of claim 34, wherein the control circuitry comprises a variable frequency drive.

58. (previously presented) The controller of claim 34, wherein the control circuitry comprises a soft-start machine controller.

59. (previously presented) The controller of claim 34, wherein the control circuitry comprises an overload device and a contactor.

60. (previously presented) The controller of claim 34, wherein the modular control unit comprises a motor connection terminal.

61. (previously presented) The controller of claim 34, wherein the machine mountable base comprises a network terminal.

62. (previously presented) The controller of claim 34, wherein the machine mountable base comprises at least one sensor terminal.

63. (previously presented) The controller of claim 34, wherein the machine mountable base comprises at least one actuator terminal.

64. (canceled)

65. (previously presented) The controller of claim 1, wherein the modular control unit is selected from and interchangeable with a plurality of modular control units, each having different control circuitry.

66. (canceled)

67. (previously presented) The motor controller of claim 16, wherein the replaceable control unit is selected from and interchangeable with a plurality of replaceable control units, each having different control circuitry.

68. (canceled)

69. (canceled)

70. (previously presented) The controller of claim 31, wherein the control unit comprises an output connector configured to couple with the motor of the at least one machine via a cable.

71. (canceled)

72. (previously presented) The controller of claim 34, wherein the modular control unit comprises an output connector configured to couple with the at least one machine via a cable.

73. (previously presented) The controller of claim 34, wherein the modular control unit is selected from and interchangeable with a plurality of modular control units, each having different control circuitry.

74. (canceled)

75. (canceled)

76. (previously presented) The controller of claim 28, wherein the on-machine motor protection base comprises a short-circuit protective device housed therein.

77. (previously presented) The controller of claim 31, wherein the machine protection device comprises a short-circuit protective device housed in the on-machine base.

78. (previously presented) The machine of claim 51, wherein the motor protection circuitry comprises a short-circuit protective device housed in the modular base.

79. (currently amended) A controller for a machine system, comprising:
a modular control unit, comprising:
control circuitry configured to directly control a motor of a machine;
a first connector configured to couple with an on-machine motor protection base to enable cooperative operability of the control circuitry with motor

protection circuitry of the on-machine motor-protection base, the modular control unit being disposed electrically downstream of the motor protection circuitry and electrically upstream of the motor; and

a second connector configured to couple with the motor of the machine to enable control of the machine by the modular control unit;

wherein the modular control unit is selected from and interchangeable with a plurality of modular control units each having different control circuitry, and wherein the modular control unit is electrically connected between the motor protection circuitry and the motor to control application of power from a power source received through the motor protection circuitry to the motor.

80. (previously presented) The controller of claim 79, wherein the second connector comprises an external cable receptacle disposed on an external surface of the modular control unit while the modular control unit is coupled to the on-machine motor protection base.

81. (previously presented) The controller of claim 79, wherein the first and second connectors are disposed on opposite sides of the modular control unit.

82. (previously presented) The controller of claim 79, wherein the modular control unit comprises a user interface, and both the user interface and the second connector are externally accessible while the modular control unit is coupled to the on-machine motor protection base.

83. (withdrawn) A machine controller, comprising:
a modular base, comprising:

a machine protection device comprising machine protection circuitry;

a wiring panel comprising an input/output device interface and a network interface; and

a modular mounting receptacle comprising a first electrical connector; and

a modular control unit, comprising:

machine control circuitry;

a machine interface configured to enable the modular control unit to couple directly with a machine being controlled;

a control panel; and

a second electrical connector through which the modular control unit is electrically coupled to the modular base to enable cooperative operability of the machine control circuitry with the machine protection circuitry.

84. (withdrawn) The controller of claim 83, wherein the modular mounting receptacle of the modular base is configured to receive the modular control unit laterally next to the machine protection device and the wiring panel such that the modular control unit, the machine protection device, and the wiring panel are accessible while the machine controller is assembled.

85. (withdrawn) The controller of claim 83, wherein the modular base comprises a rear side and a front side opposite from the rear side, the rear side comprises a mount, and the front side comprises the wiring panel and the modular mounting receptacle in a side by side configuration along the front side.

86. (withdrawn) The controller of claim 83, wherein modular control unit comprises an external cable receptacle disposed on an external surface of the modular control unit, the external cable receptacle is configured to receive an external cable coupled to the machine, and the modular control unit is configured to directly control the

machine via the machine control circuitry, the external cable receptacle, and the external cable.

87. (withdrawn) The machine system of claim 83, wherein the machine protection device comprises a short-circuit protective device or a local disconnect device.

88. (withdrawn) The controller of claim 83, wherein the modular control unit comprises an overload protection device, an adjustable overload protection device, a soft start machine controller, a variable frequency machine drive, a manual control mechanism, or a combination thereof.